

IN THE CLAIMS:

Sub B1

6. (Amended) Apparatus for post-treatment of a stenosed region of an artery that has been reduced by angioplasty or other procedure comprising:
radioactive dose means for emitting radiation;
a device positioned in spaced relation to the dose means; and
positioning means operatively connected to said device [dose means] for advancing said device and dose means [and removably positioning said dose means] within the stenosed region of an artery that has been reduced by angioplasty or other procedure, said positioning means also being operatively connected to said device and dose means for positioning the device and dose means between a first position and a second position, wherein in the first position the dose means is positioned within the stenosed region of the artery in a non-deployed configuration and a second position wherein the dose means is in a deployed configuration for treating at least a portion of the stenosed region of the artery, said positioning means being operatively connected to said device and dose means for withdrawing said device and dose means from the artery after said radioactive dose means is exposed to the stenosed region for a period of time sufficient to reduce restenosis of the stenosed region.

Sub B2

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10. (Amended) Apparatus for post treatment of a stenosed region of an artery that has been reduced by angioplasty or other procedure comprising:
a radiation source; and
a catheter having at least one lumen adapted to deliver said radiation source within the stenosed region of an artery that has been reduced by angioplasty or other procedure, said

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catheter also being adapted to at least partially reposition relative to the radiation source for treatment when positioned within the stenosed region of an artery, the catheter being adapted to at least partially reposition to withdraw said radiation source from the artery after said radiation source is exposed to the stenosed region for a period of time sufficient to reduce restenosis of the stenosed region.

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14. (Amended) The apparatus of Claim 10, wherein the catheter includes a balloon, the catheter defining at least one hole distal to the balloon and at least one hole proximal to the balloon.

16. (Amended) The apparatus of Claim 15, wherein the catheter defines a plurality of perfusion holes and includes a second lumen in fluid communication with perfusion holes which allow perfusion of blood in the artery during inflation of the balloon.

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17. (Amended) The apparatus of Claim 10, wherein the radiation source provides a radiation dose to the stenosed region through a window in the catheter [sufficient to retard proliferation of smooth muscle cells at the stenosed region].

18. (Amended) The apparatus of Claim 10, wherein the radiation source is repositioned relative to the catheter to position the radiation source for treatment [comprises a balloon catheter capable of performing angioplasty and the post-treatment].

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19. (Amended) The apparatus of Claim 10, wherein the catheter includes a balloon for repositioning a stent, the stent including the radiation source [is capable of reducing the stenosed region and performing the post-treatment].

Sub B

20. The apparatus of claim 6, wherein the radioactive dose means for emitting radiation is positioned within the device, the device defining a housing, wherein in the first position the dose means is at least partially enclosed within the housing and shielded from treating the stenosed region and in a second position the housing is deployed to at least partially expose the dose means to the stenosed region of the artery.

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21. The apparatus of claim 20, wherein in the second deployed position the housing is withdrawn relative to the dose means positioned in the stenosed region to expose the stenosed region to the dose means.

22. The apparatus of claim 20, wherein the housing defines a window and in the second position the housing is repositioned within the artery relative to the dose means positioned in the stenosed region to position the window in proximity to expose the stenosed region to the dose means through the window.

Sub B

23. The apparatus of claim 20, wherein the housing defines a window and a cover for the window and the positioning means includes a remote actuation mechanism for the cover such that in the second position the window is open and exposing the stenosed region to the dose means.